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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09-931,850	08/20/2001	Shoji Fujisawa	FUJISAWA 2	3565

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EXAMINER

JONES, JUDSON

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,850

Applicant(s)

FUJISAWA ET AL.

Examiner

Judson H. Jones

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 6-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This claim refers to "an overall length of the armature coils." What Applicant means by this phrase is explained on page 20 line 10 to page 21 line 10. In looking at a coil, for example Wasson figure 3 coil 3101-1, the coil has a length, a width and a thickness with the length being measured up from the bottom of the page. What Applicant means by "overall length" is the combined thicknesses of the coils 3101-1 to 311-3. In order for the claim to be clear, Applicant needs to explain what is meant by "overall length" by inserting a phrase indicating what length is meant.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 3 and 8 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,348,746 B1 in view of Higuchi 4,689,529 A and Wasson et al. 6,163,091 A. The '746 patent discloses the claimed invention except for the iron core of platy configuration and the three phase winding where each set of armature coils corresponds to one pole width. Higuchi teaches in column 3 lines 20-26 that making a core from laminates can reduce eddy current power loss. Since Higuchi and the '746 patent are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized laminations in the iron core of the '746 device in order to reduce eddy current power losses and thus increase the efficiency of the motor. Wasson et al. teaches in column 6 lines 1-21 that flat coils (as shown in figure 11 of the '746 patent) have a larger percentage of inactive wire in comparison to the windings shown in Wasson et al. figure 3. Since Wasson et al. and the '746 patent as modified by Higuchi are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have made the moving coil linear motor of a slider unit so that each long side of a coil is adjacent to one of a pair of magnets that oppose one another across an air gap. The advantage of that kind of winding is increased efficiency of the motor as more of the wire contributes to the force moving the movable member.

In regard to claim 8, see Higuchi figure 6.

Claim 7 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,348,746 B1 in view of

Higuchi, Wasson et al. and Kawamichi et al. 5,571,284 A. The '746 patent as modified by Higuchi and Wasson et al. discloses the slider unit but does not disclose adjoining poles of field magnets having chamfered corners. Kawamichi et al. teaches chamfering the corners of adjoining poles of field magnets in figure 3 and in column 3 line 60 to column 4 line 56 for the purpose of increasing effective magnetic flux density and thus improving the efficiency of the motor. Since Kawamichi et al. and the '746 patent as modified by Higuchi and Wasson et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized chamfered magnet edges in order to increase the effective magnetic flux density and to therefore improve the efficiency of the motor.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wavre 5,962,937 A in view of Wasson et al. and Higuchi. Wavre discloses a slider unit with a moving coil linear motor (C) comprising a bed supporting a magnet yoke, the yoke having confronting sections connected, field magnets, a moving coil assembly (see figure 6), a table (part of unit A), a support arm extending through a sidewise opening of the yoke (7) but does not disclose field magnets with like poles confronting each other across an air gap, a moving coil assembly have a platy iron core or three phase armature coils where each set of armature coils corresponds to one pole width. Wasson et al. discloses a three phase motor with each set of armature coils corresponding to one pole width in figure 3 and discloses field magnets with like poles confronting each other across an air gap in figure 5 and teaches in the abstract that his

motor supplies a nearly constant force along its entire length. Wasson et al. also teaches in column 6 lines 15-21 that his coil winding method uses copper more efficiently than flat wound coils. Since Wasson et al. and Wavre are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized a three phase motor with each set of armature coils corresponding to one pole width, the motor also having field magnets of like poles confronting each other across an air gap, in order to increase the efficiency of the motor by having a higher percentage of the copper contributing to the driving force. Higuchi teaches in column 3 lines 20-26 that making a core from laminates can reduce eddy current power loss. Since Higuchi and the Wavre as modified by Wasson et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized laminations in the iron core of a linear motor device in order to reduce eddy current power losses and thus increase the efficiency of the motor. In regard to the claim limitation of "supported by arms extending from the table," dividing the single arm of Wavre into two parts would satisfy this claim limitation. It would have been obvious at the time the invention was made for one of ordinary skill in the art to have divided the arm of Wavre into two parts in order to reduce the weight of the supporting arm and to thus improve the response of the moving part of the linear motor.

In regard to claim 6, see Wasson et al. column 6 lines 44-51.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wavre as modified by Higuchi and Wasson et al. as applied to claim 1 and further in view of Kawamichi et al. Wavre as modified by Higuchi and Wasson et al. discloses the slider unit but does not disclose adjoining poles of field magnets having chamfered corners. Kawamichi et al. teaches chamfering

the corners of adjoining poles of field magnets in figure 3 and in column 3 line 60 to column 4 line 56 for the purpose of increasing effective magnetic flux density and thus improving the efficiency of the motor. Since Kawamichi et al. and Wavre as modified by Higuchi and Wasson et al. are from the same field of endeavor it would have been obvious at the time the invention was made for one of ordinary skill in the art to have utilized chamfered magnet edges in order to increase the effective magnetic flux density and to therefore improve the efficiency of the motor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ
May 20, 2003

